

# NASA TECH BRIEF



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## Computer Program Searches Characteristic Data of Diodes and Transistors

### The problem:

To devise a computer-based filing system which will provide a comprehensive, accurate, and ready reference to characteristic data of diodes and transistors.

### The solution:

A semiconductor information storage and retrieval system, which permits selective retrieval of information on diodes and transistors manufactured in the U.S. Any of the following types of information can be searched:

1. Device number
2. Maximum electrical characteristics
3. Typical electrical characteristics
4. Minimum electrical characteristics
5. Manufacturer(s)
6. Specifications to which each device can be procured
7. Numbers of reports describing pertinent reliability, test data, and failure information
8. Applicable comments

### How it's done:

The total system is composed of 12 separate digital magnetic tape files. Each file contains the applicable data for a major functional segment of the semiconductor field. Multipurpose devices are listed redundantly. The 12 individual files are:

1. General transistor file
2. Switching transistor file
3. Silicon controlled rectifier file
4. Unijunction transistor file
5. Field effect transistor file
6. General diode file
7. Reference diode file
8. Video detector file
9. RF mixer diode file
10. Switching diode file
11. Tunnel diode file
12. Variable capacitor file

This system makes no attempt to judge the stored data; system design has been focused on providing the facts and suitable reference aids for human selection. When suitable retrieval requests are made of the file, the system will select and present to the user, a listing of part numbered devices that fulfills his requirements. The system can thus be used to supply a complete listing of technical component information necessary for circuit designers, reliability engineers, and quality assurance personnel.

### Notes:

1. This program is now in operation at the Goddard Space Flight Center.
2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer  
Goddard Space Flight Center  
Greenbelt, Maryland 20771  
Reference: B66-10529

(continued overleaf)

**Patent status:**

Title to this invention has been waived under the provisions of the National Aeronautics and Space Act [42 U.S.C. 2457 (f)], to Booz-Allen Applied Research, Inc., 4733 Bethesda Avenue, Bethesda, Maryland.

Source: Booz-Allen Applied Research  
under contract to  
Goddard Space Flight Center  
(GSFC-493)